

REMARKS

INTRODUCTION

In accordance with the foregoing, no claims have been amended. Claims 21-32 have been cancelled. Claims 3, 4, 6-16, 18 and 20 have been withdrawn. Claims 1, 2, 5, 17 and 19 are pending and under consideration.

WITHDRAWN CLAIMS

The Examiner noted that a complete reply to the final Office Action must include cancellation of non-elected claims or other appropriate action. Withdrawn claims 21-32 have been cancelled. In view of the following, it is respectfully requested that withdrawn claims 3, 4, 6-16, 18 and 20 be rejoined due to their dependence on one of claims 1 and 19.

CLAIM REJECTIONS

Claims 1, 2, 5, 17 and 19 were rejected under 35 USC 103(a) as being unpatentable over Murade (US 2001/0030722) (hereinafter "Murade") in view of Makiko et al. (JP 2000-122616) (hereinafter "Makiko") and Aoki et al. (US 6,177,916) (hereinafter "Aoki").

Claims 1, 2, 5 and 17

Claim 1 recites: "...an electrode pad unit which applies an alignment signal voltage to the liquid crystal panel for alignment of the liquid crystal filled in the liquid crystal panel... wherein the electrode pad unit is directly connected to the first switching circuit and the second switching circuit."

The Office Action relies on Murade to show this feature of claim 1. Specifically, the Office Action relies on Figure 3 of Murade, which was reproduced in the Office Action.

In the Office Action, on page three, the Examiner notes that the first switching circuit recited in claim 1 is shown by data sampling circuit 101 of Murade. Also on page 3 of the Office Action, the Examiner argued that shift register circuits 221 and 231 correspond to a first driving circuit and a second driving circuit of the present invention as recited in claim 1. However, at the footnote of the annotated drawing on page four of the Office Action, the Examiner noted that 221 and 231 of Murade correspond to a first switching circuit and second switching circuit, respectively. Thus, it is not clear that reference numerals 221 and 231 correspond to the driving circuit or the switching circuit of the present invention.

It is respectfully submitted that the leads 107 of Murade are the electrode pad unit for operating the device, not for applying an alignment signal voltage to the liquid crystal panel for alignment of the liquid crystal filled in the liquid crystal panel.

At page three of the Office Action, the Examiner argued that a data sampling circuit 101 of Murade corresponds to a first switching circuit. However, it is respectfully submitted that the data sampling circuit 101 is operated on the basis of the signals output from a data line shift register 221, a data line buffer circuit 222, through the data line buffer circuit 222, and six image signal lines 225 corresponding to the modulated image signal VID1 to VID6 discussed, for example, in paragraph [0093] of Murade. Accordingly, the data sampling circuit 101 is a driving circuit, and not a first switching circuit for applying the alignment signal voltage as recited in claim 1.

Still further, on page 5 of the Office Action, the Examiner notes that Murade does not show a second switching circuit as recited in claim 1 but that this feature of claim 1 is shown in Makiko at element 125.

On page four of the Office Action, the Examiner then notes on the annotated Figure 3 of Murade that "electrode pad unit directly connected to first switching circuit" and "electrode pad unit directly connected to the second switching unit."

Accordingly, in one section of the Office Action (page 5), the Examiner notes that Murade does not show a second switching unit. In another section of the Office Action (page 4), the Examiner notes that the shift register circuit 231 of Murade is a second switching unit. Clarification is respectfully requested.

The Examiner relies on the leads 107 in Murade to correspond to the electrode pad unit of claim 1. However, in Murade as is clearly shown in Figure 3, the leads 107 are connected to the switching circuit through the buffer circuit and the data line shift resistors 221.

Referring to paragraph [0093] of Murade, in the data line shift register circuit 221, after the start signal DX has been input, shift signals (sampling signals X1, X2, X3 . . .) for driving the analogue switches of the data sampling circuit 101 synchronously with the rising edges of the clock signal CLX and the reverse clock signal CLXB thereof are generated and output. When the sampling signals with the phases shifted are output to the data sampling circuit 101 from the data line shift register 221 through the data line buffer circuit 222, the analogue switches are successively operated on the basis of the sampling signals. As a result, the modulated image signals VID1 to VID6 supplied through the image signal lines 225 are captured by the

predetermined data lines 3 at predetermined timing, and held by the pixels 105 selected by the scanning signals supplied through the scanning lines. Murade, paragraph [0093].

By contrast, as recited in claim 1, the electrode pad unit of the present invention is **directly** connected to the switching circuit so that liquid crystal alignment is more easily performed during a liquid crystal injection process or during a packaging process.

By contrast, Murade performs a liquid crystal alignment **after** installing the buffer circuit and shift register circuit.

Further, the leads 107 of Murade do not appear to apply an alignment signal voltage to the liquid crystal panel for alignment of the liquid crystal filled in the liquid crystal panel as is recited in claim 1 because the leads **107 are directed to the data line shift registers 221 rather than the data sampling circuit 101.**

Further, this deficiency in Murade is not cured by Makiko or Aoki.

The technical feature of claim 1 of an electrode pad applying an alignment signal voltage to the liquid crystal panel (instead of just for a driving circuit) where the electrode pad unit is directly connected to the first switching circuit and the second switching circuit provides that a liquid crystal alignment process can be easily performed during a liquid crystal injection process and after a packaging process. Accordingly, when a commercial device using ferroelectric liquid crystal (FLC), for example, an engine for a direct view type LCD and/or an LCoS projection television is manufactured, uniformity and stability of liquid crystal alignment can be obtained.

Claims 2, 5 and 17 depend on claim 1 and are therefore believed to be allowable for at least the foregoing reason.

Withdrawal of the foregoing rejection is requested.

Claim 19

Claim 19 recites: "...an electrode unit to supply an alignment signal voltage to the liquid crystal panel... wherein the electrode pad unit is directly connected to the first switching circuit and the second switching circuit." In view of the foregoing, it is respectfully submitted that neither Murade, Makiko nor Aoki discuss these features of the claim 19.

Withdrawal of the foregoing rejection is requested.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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